

WHAT IS CLAIMED IS:

1. A RS provided in each of a plurality of types of personal computers and coupled to a host computer for displaying information and providing transactional services to a plurality of users, said RS comprising:

input means for receiving user inputs from each of said plurality of users;

storage means for storing objects containing data or interpretively executable programs, said objects stored in said storage means and objects stored in a host computer comprising a plurality of partitioned applications; and

object processing means, responsive to said input means, for retrieving objects selectively from at least one of said storage means and interpretively executing program instructions within said data and program objects, the plurality of said objects comprising partitioned applications.

2. A RS according to claim 1, wherein each of said objects is configured in a self-defining and predetermined format and may comprise zero or more embedded objects, or may comprise zero or more embedded calls to other objects, or may comprise both, or may comprise neither.

3. A RS according to claim 2, wherein each of said objects comprises a header and zero or more segments.

4. A RS according to claim 3, wherein said header is extendable.

5. A RS according to claim 3, wherein said one or more segments have varying lengths.

6. A RS according to claim 3, wherein said header comprises an object identifier.

7. A RS according to claim 3, wherein said header comprises means for indicating the length of said object.

8. A RS according to claim 3, wherein said header comprises control attributes for indicating the permanency and currency of said object.

9. A RS according to claim 3, wherein each of said one or more segments comprises means for indicating the size of said segment.

10. A RS according to claim 2, further comprising:
input management means, coupled to said input means, for translating said user inputs into a personal computer independent format.

11. A RS according to claim 2, further comprising:

object processing means, whereby said partitioned applications are interpretively executed independently of personal computer type.

12. A RS according to claim 2, further comprising:

logic interpreting means, whereby the said personal computer independent processing of said partitioned applications are translated back into personal computer dependent functions.

13. A RS according to claim 2, further comprising:

display means, whereby the said data objects are are translated into device dependent displays

14. A RS according to claim 2, wherein objects are selectively stored in said storage means between user sessions according to the frequency of usage of said objects by each of said plurality of users.

15. A RS according to claim 14, further comprising means for ensuring the currency of each of said objects based on said currency control attributes of said objects.

16. A RS according to claim 8, wherein objects are selectively stored in said storage means during user sessions according to a received object's said control attributes.

17. A RS according to claim 2, further comprising data collection means, coupled to said input means, for collecting and storing said user inputs.

18. A RS according to claim 12, wherein advertisements are selectively displayed on the personal computers of individual users in response to said user inputs collected by said data collection means and communicated to said host computer.

19. A RS according to claim 6, wherein said object identifier further comprises:

an object space identifier for identifying an address space;

a set identifier for identifying an object set within an object addressing space; and

an occurrence field for identifying an object within an object set.

20. A RS for use with a host computer for displaying information and providing transactional services to a plurality of users, said RS comprising:

input means for receiving input signals from each of said plurality of users;

storage means for storing data and program objects having executable instructions, each of said objects being identified by a unique object-id and comprising information in a predetermined format;

communication means, coupled to said host computer and said storage means, for receiving objects from said host computer; and

object processing means, coupled to said communication means and said storage means and responsive to signals from said input means and said communication means, for retrieving objects specified by unique object-ids and interpreting program instructions within said program objects to display information and provide transactional services.

21. A RS according to claim 20, wherein each of said objects contains a header and one or more segments.

22. A RS according to claim 21, wherein said header has a extendable length.

23. A RS according to claim 21, wherein each of said one or more segments have varying lengths.

24. A RS according to claim 21, wherein said header comprises said object-id.

25. A RS according to claim 21, wherein said header comprises means for indicating the length of said object.

26. A RS according to claim 21, wherein each of said one or more segments comprises means for indicating the size of said segment.

27. A RS for use with a host computer for displaying information and providing transactional services to a plurality of users, said RS comprising:

storage means for storing data and program objects having interpretable instructions, each of said objects comprising information in a predetermined format;

input means for receiving user input signals from said plurality of users;

communication means, coupled to said host computer and said storage means, for receiving objects from said host computer;

collection means, coupled to said input means and said communication means, for compiling said user input signals from said plurality of users and passing said compiled sub-scriber input signals to said host computer via said communication means to analyze characteristics of said compiled user input signals; and

object processing means coupled to said collection means for retrieving a first category of objects in response to said user input signals according to said analyzed characteristics of said compiled user input signals.

28. A RS according to claim 27, wherein said first category of objects comprises advertisement objects.

29. A RS according to claim 28, further comprising advertisement management means for controlling the display of said advertisement objects and pre-fetching of said advertisement objects from said host computer via communications means.

30. A RS according to claim 29, wherein said advertisement management means includes an advertisement queue for storing the object-ids of said advertisement objects from which objects are pre-fetched in a manner that avoids pre-empting use of the communications media.

31. A RS according to claim 30, wherein said advertisement queue can store a variable number of object-ids based on parameters that include advertisement queue capacity, replenishment threshold for ad object-ids, and replenishment threshold for number of outstanding pre-fetched advertisement objects.

32. A RS according to claim 30, further comprising message management means, coupled to said advertisement management means and said host computer, for loading advertisement object-ids into said advertisement queue.

33. A RS according to claim 32, wherein said message management means loads said advertisement object-ids into said

advertisement queue according to said analyzed characteristics of said compiled user input signals.

34. A RS according to claim 22, wherein said compiled input signals are analyzed off-line by said host computer.

35. A RS for use with a host computer and a plurality of personal computers for displaying information and providing transactional services to a plurality of users, said RS comprising:

first storage means, provided in said RS, for storing data objects and program objects having executable instructions;

second storage means, provided outside said RS, for storing data objects and program objects having executable instructions;

input means for receiving user input signals from said plurality of users;

communication means for receiving objects from said host computer; and

object processing means, responsive to signals from said input means and said communication means, for retrieving objects from at least one of said first and second storage means specified by unique object-ids and executing program instructions within said objects to display information and provide transactional services.

IN THE CLAIMS:

Amend claim 7 as follows:

After the word "to" delete "one of claims 3-6", and add
-- claims 3, 4, 5, or 6 --.

Add the following new claims 36 through 65:

36. A method for operating a computer network that provides a very large number of simultaneous users access to large numbers of applications having text and graphic information, the network including one or more host computers, a plurality of distribution computers connected in groups of one or more to each of the host computers, and a plurality of reception system computers each having a display screen, the reception system being connected in groups of one or more to each of the distribution computers, the method comprising the steps of:

- a. organizing the application information into objects;
- b. distributing selected objects in accordance with a predetermined plan to the host computers, the distribution computers and the reception system computers; and
- c. supplying objects to a reception system computer requesting an application so that the requesting reception system computer can selectively combine the objects which make up a requested application by collecting objects as required from the host computers, the distribution computers, and the requesting reception system computer so that the requested application may be displayed at the reception system computer display screen based on the objects collected.

37. The method of claim 36 wherein the organizing of the applications into objects includes providing the objects with

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display data and program instructions necessary to execute the requested applications.

38. The method of claim 37 wherein the combining of the objects at the requesting reception system computer includes the utilization of application software operating at the requesting reception system computer which is capable of interpreting the program instructions included in the objects.

39. The method of claim 38 wherein the organization of the applications into objects includes structuring the objects to include a first section having information for processing the object and a second section including one or more subunits of information including the display data and program instructions for executing the object.

40. The method of claim 39 wherein in combining objects for displaying the requested applications, the reception system application software determines if the requested application can be constituted from objects stored at the requesting reception system and to the extent it is determined that objects not stored at the requesting reception system are required, requesting the required objects from the network.

41. The method of claim 40 wherein the organizing of the applications into objects includes providing the program instructions necessary to execute the requested application in a

high-level language having verbs adapted to be interpreted by the application software maintained at the requesting reception system computer.

42. The method of claim 41 wherein the supplying of objects to the application requesting reception system includes the supply of information other than objects and wherein such other information other than objects is formulated as messages.

43. The method of claim 42 wherein the supplying of messages includes structuring the messages to have a first section including information for processing of the message, and at least a second section including information representing the message.

44. The method of claim 43 wherein distributing the objects within the network includes placing objects depending upon the likelihood that its associated application will be requested so that objects most likely to be required for a requested application will be placed at the requesting reception system computer and the objects least likely to be required for the requesting application will be placed at the host computers.

45. The method of claim 44 wherein distributing the objects within the network includes placing objects depending in part upon preferences of the user of the requesting reception system computers.

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46. The method of claim 45 wherein distributing objects within the network depends in part upon user preference determined by a history of user application requests.

47. The method of claim 39 wherein organizing the application information into objects includes formulating the objects so that they can be used in one or more applications.

48. The method of claim 47 wherein formulating the objects includes formulating the object subunits as elements that maybe used in one or more objects.

49. The method of claim 2 wherein the organizing of applications into objects includes collecting the objects in sets which include the information necessary to present a display to the user at the requesting reception system monitor, and wherein one or more screens are used to make up an application.

50. The method of claim 2 wherein supplying objects to the requesting reception system computer includes downloading objects from the network to the requesting reception system when it logs onto the network so as to maintain the store of objects at the requesting reception system computer current.

51. A method of searching for applications, the applications being made up of objects containing text and graphic data and program instructions for presenting the applications, the

applications being stored on a computer network, the network including a plurality of distribution computers connected in groups of one or more to each of the host computers, and a plurality of reception system computers each having a display screen at which the applications may be presented, the reception system computers being connected in groups of one or more to each of the distribution computers, the method comprising:

a. preparing a plurality of tables each having various applications referenced to respective keywords so that each table represents a predetermined subset of the applications stored on the network;

b. providing each table with a unique coding;

c. generating a code identifier in response to a query for an application entered at the reception system;

d. comparing the code identifier generated with the table coding to select a table suited to the query;

e. transmitting the table to the reception system at which the query was entered; and

f. processing the table identified applications at the reception system that made the query.

52. The method of claim 51 wherein preparing the tables includes representing the applications thereon by referring to the objects that make up the respective applications, and wherein

the coding of the tables includes supplying one or more letters in combination to the table to uniquely identify each table.

53. The method of claim 52 wherein the generating of the code identifiers includes receiving the query for applications in one of a plurality of different procedures and translating each of the different procedures into a single common procedure for generating the code identifier, the code identifier including one or more letters in combination to uniquely identify an application table.

54. The method of claim 53 wherein the generating of the code identifiers includes receiving a query from the user for an application with a procedure selected for the group of procedures consisting of selection by character string, alphabetical listing, physical analogy and menu listing.

55. The method of claim 53 wherein the processing of table identified applications includes collecting at the reception system the objects which make up the application associated with the identified table, and executing the objects so as to present the corresponding text and graphic data for review.

56. Software contained on machine readable media for use in a personal computer to configure the personal computer as a reception system computers for displaying applications at the personal computer monitor, the applications being made up of

objects including text and graphic data and program instructions, the reception system being connected in a computer network, the network including one or more host computers, a plurality of distribution computers connected in groups of one or more to each of the host computers, and a plurality of reception system computers, the reception system computers being connected in groups of one or more to each of the distribution computers, the software comprising:

a. first plurality of program instructions for establishing means for generating requests for applications;

b. second plurality of program instructions for establishing means for managing the objects associated with the requested applications;

c. third plurality of program instructions for establishing means for executing the program instructions included within the objects;

d. fourth plurality of program instructions for establishing means for storing objects at the reception system computer;

e. fifth plurality of program instructions for establishing means for communicating with the network for the obtaining of objects;

f. sixth plurality of program instructions for establishing means for causing the interpreted object data to be displayed at the reception system computer monitor;

wherein, the first, second, third, fourth, fifth and sixth plurality of program instructions are related such that when an

requested application is to be executed at the reception system computer, the means for managing the objects determines what objects are required for execution of the application; determines which of the required objects are available at the reception system computer, and secures from the network those required objects not available at the reception system computer so that the means for interpreting the objects can supply the text and graphic data that make up the application to the means for causing the application to be displayed.

57. The software of claim 56 wherein the first plurality of program instructions for establishing means for requesting applications includes means for transforming physical requests for applications entered at the reception system computer input to logical events which are supplied to the means for managing objects so that required objects for the application can be identified and organized.

58. The software of claim 57 wherein the second group of program instructions for establishing the means for managing the objects includes instructions for creating a page processing table to control collection of objects to be executed for presenting the requested application.

59. The software of claim 58 wherein the first group of program instructions for managing the objects include

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64. The software of claim 56 including program instructions which enable the software to act in cooperation with the operating system running at the reception system computer.

65. The software of claim 56 wherein the second group of instructions for establishing means for managing the objects includes instructions for managing the objects by parsing the objects into its segments according to coding contained within the objects.

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